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Yiming YE, et al.
DSJ YOR920030226US1

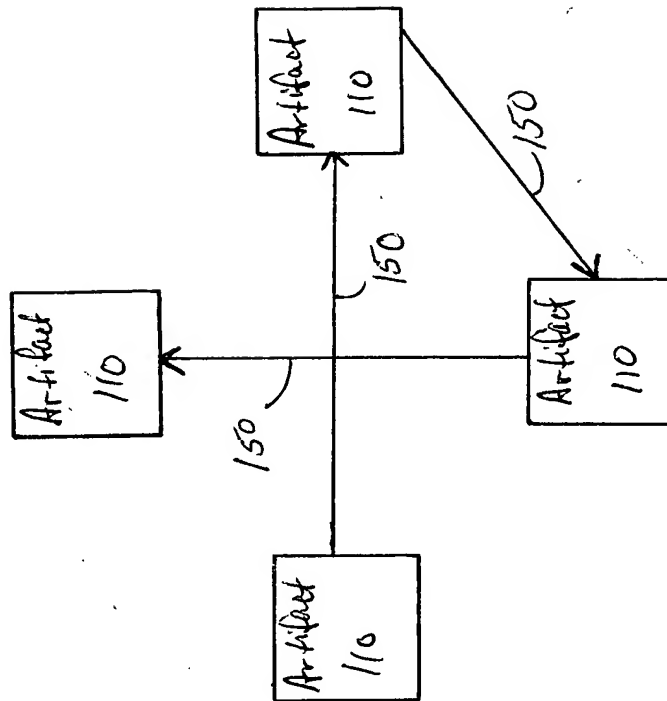


Figure 1

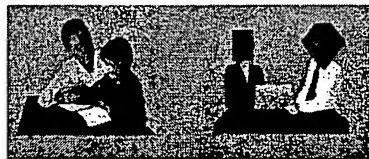


Figure 2A



Figure 2B



Figure 2C



Figure 2D



Figure 2E

210

220

Figure 2,

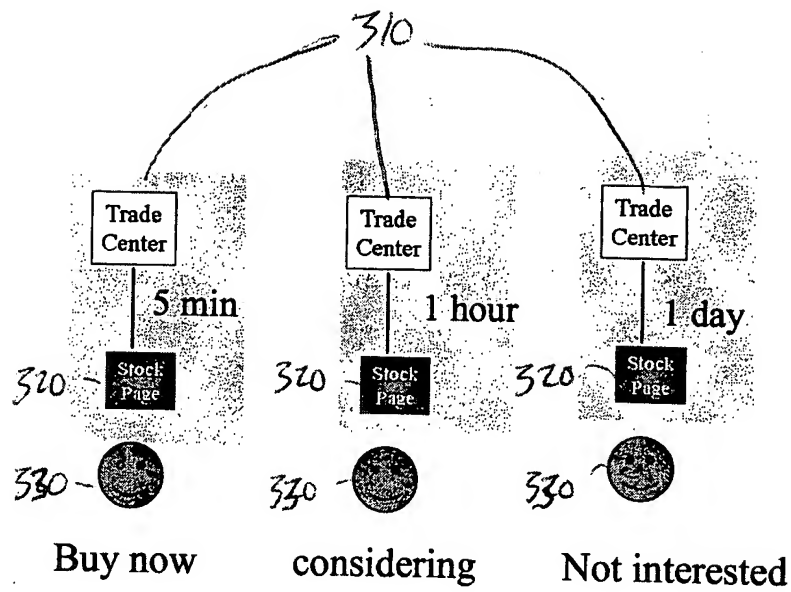


Figure 3.

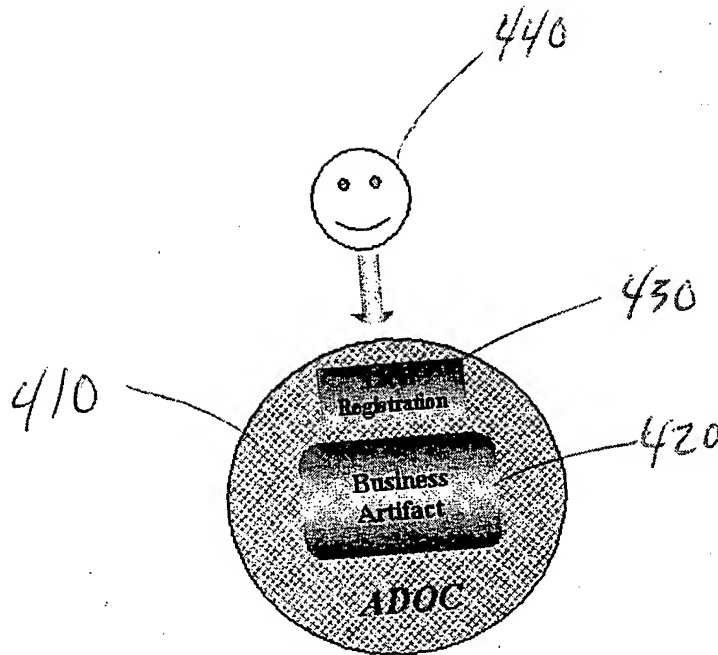


Figure 4

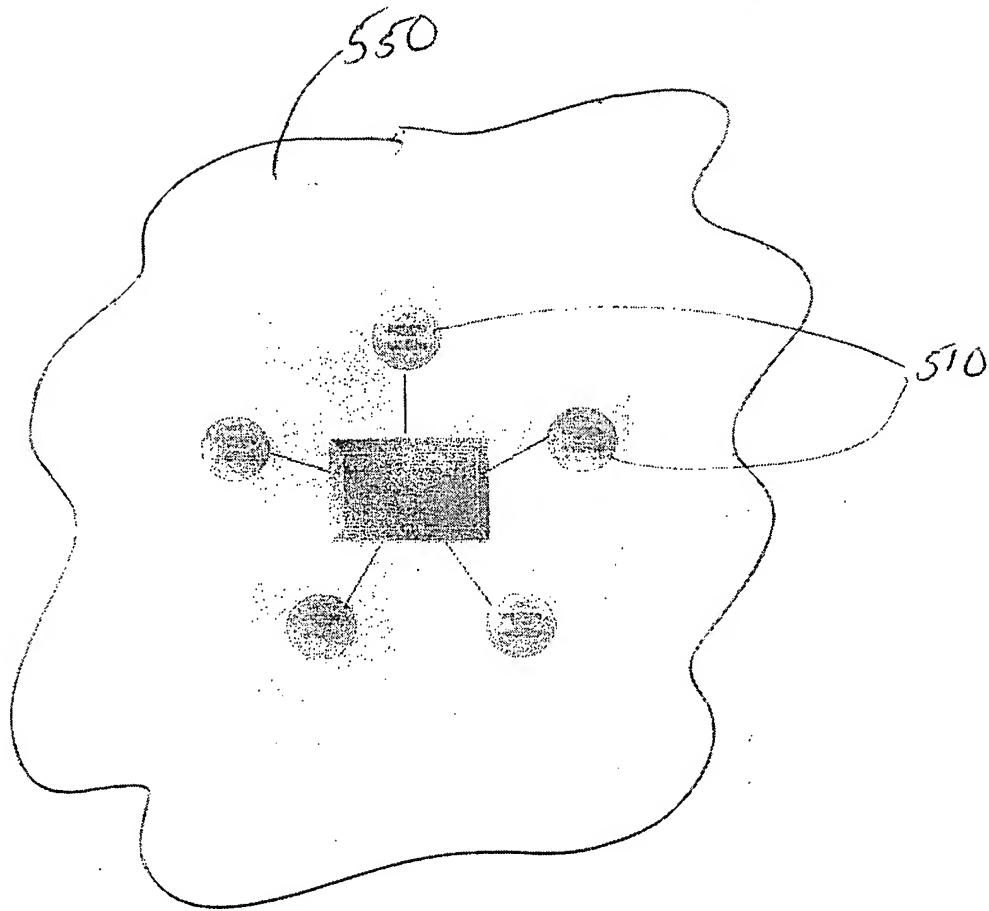


Figure 5

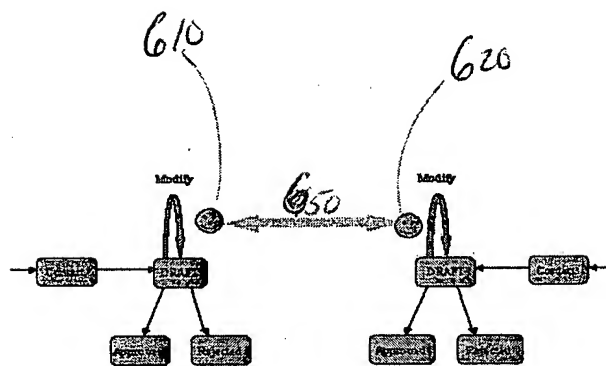
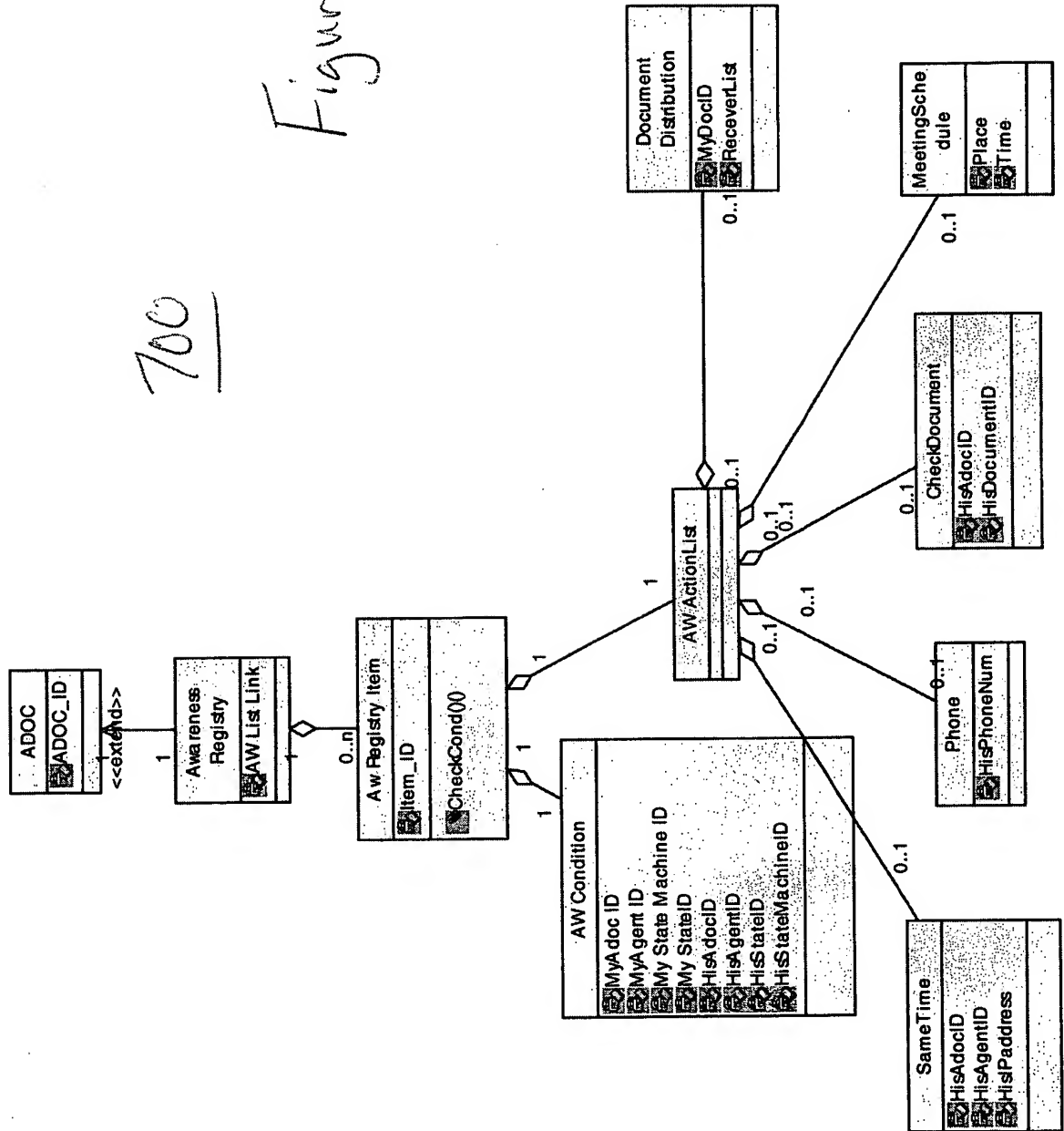


Figure 6



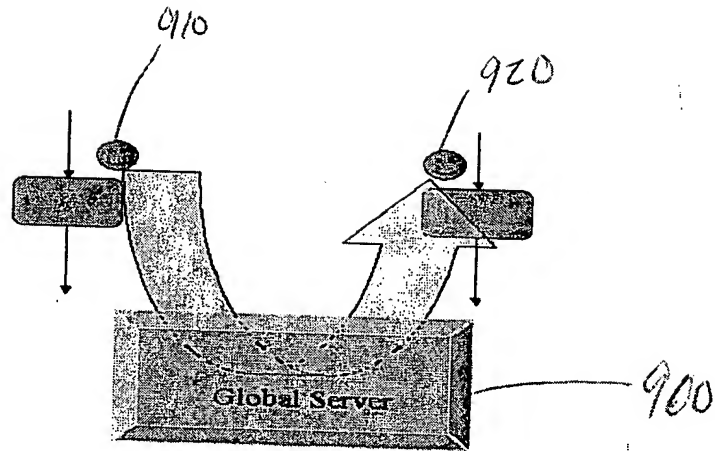


Figure 9

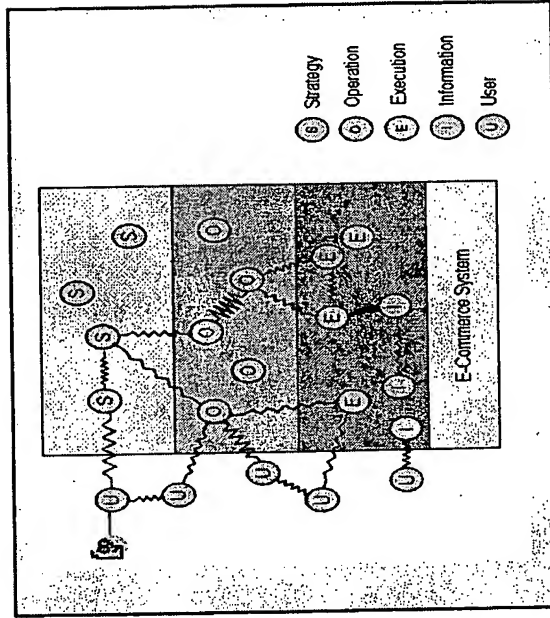


Figure 10C

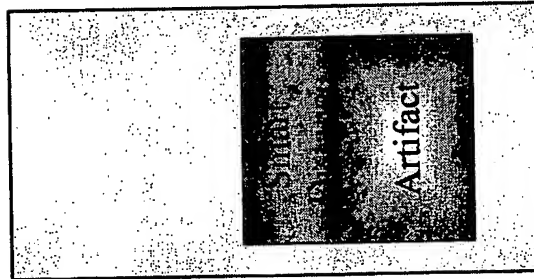


Figure 10B

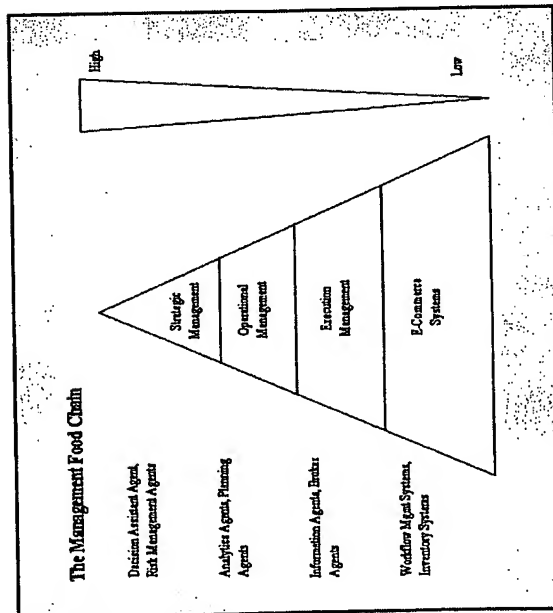


Figure 10A

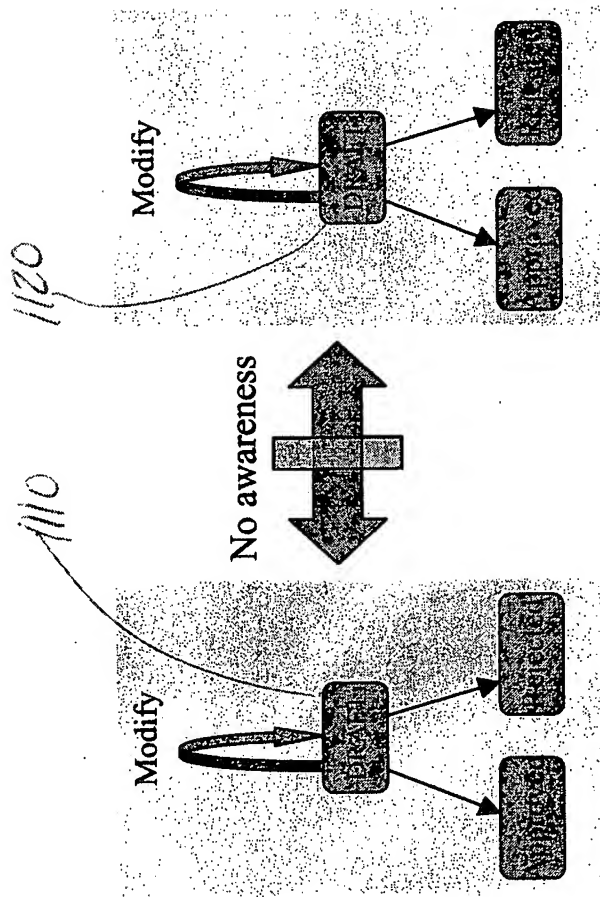


Figure 11

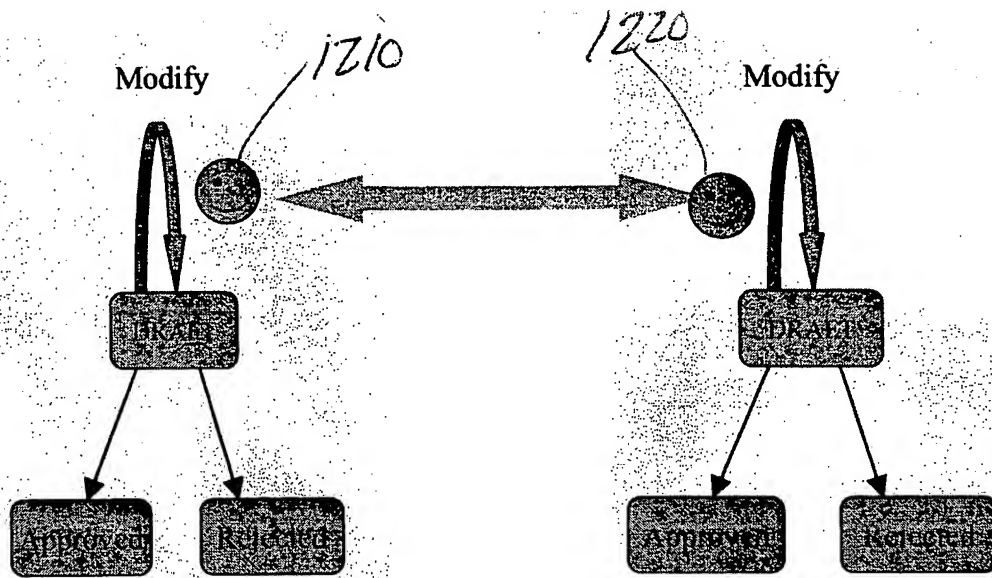


Figure 12

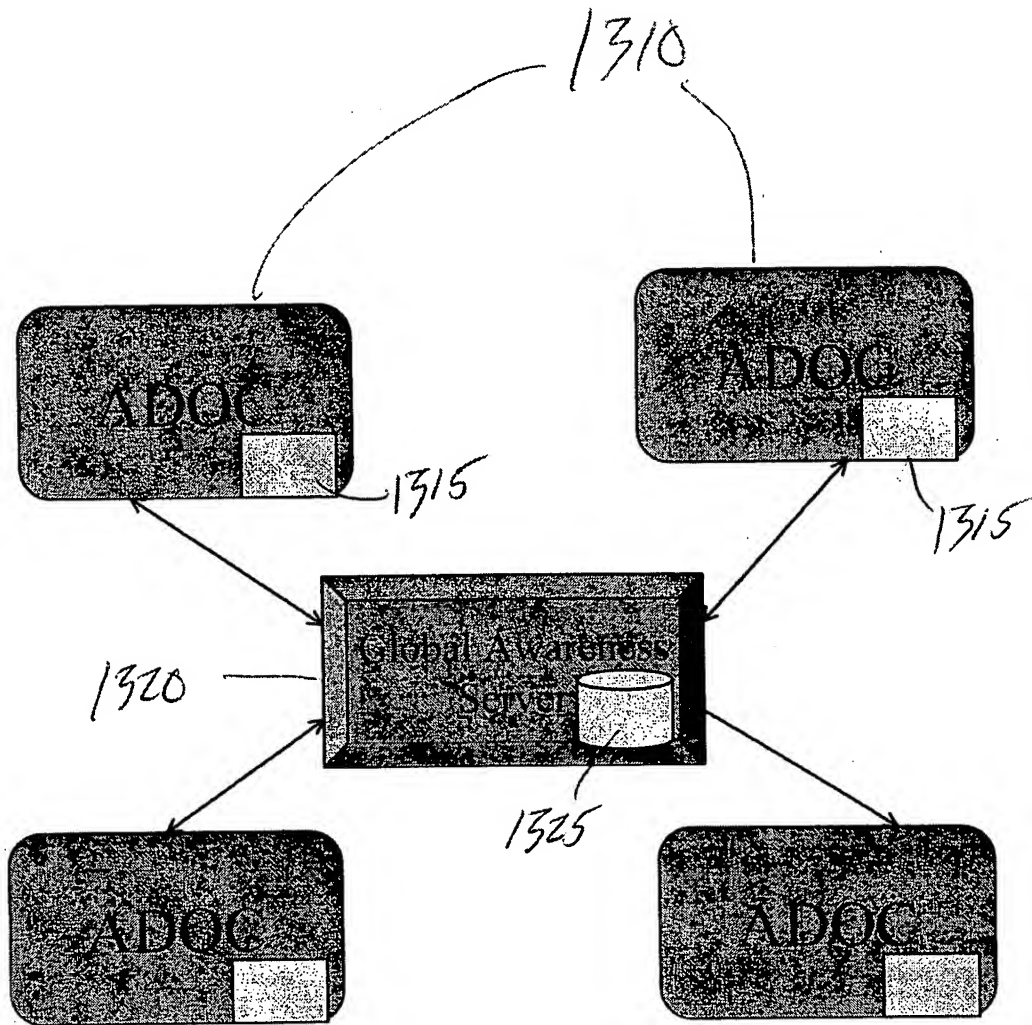


Figure 13

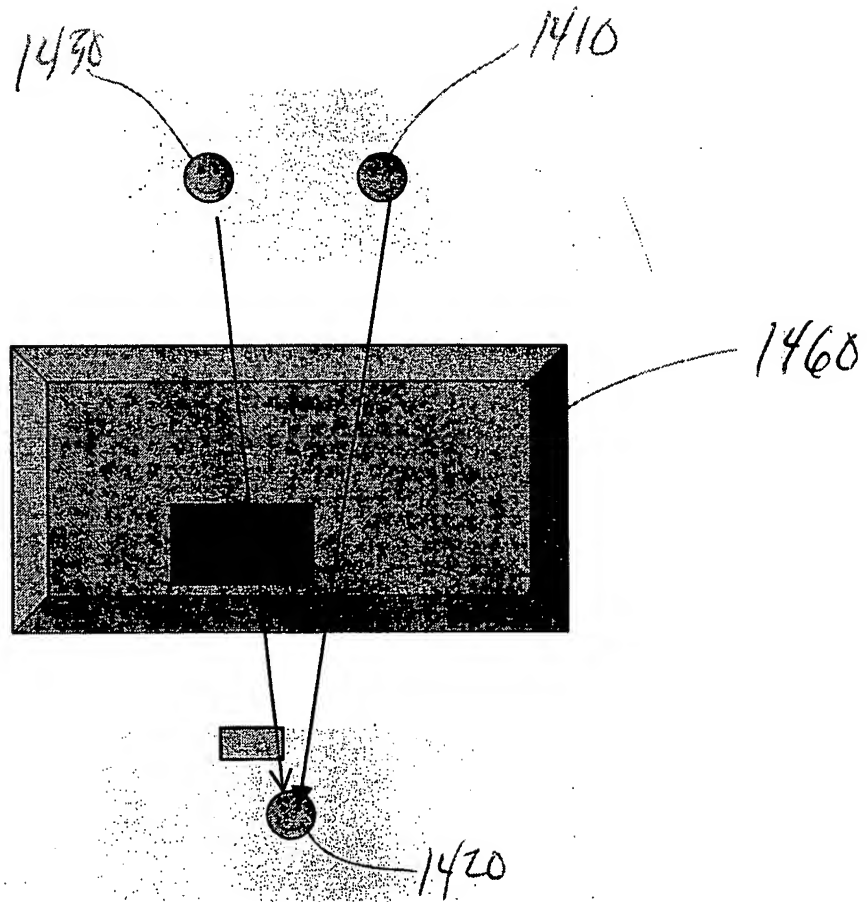


Figure 14

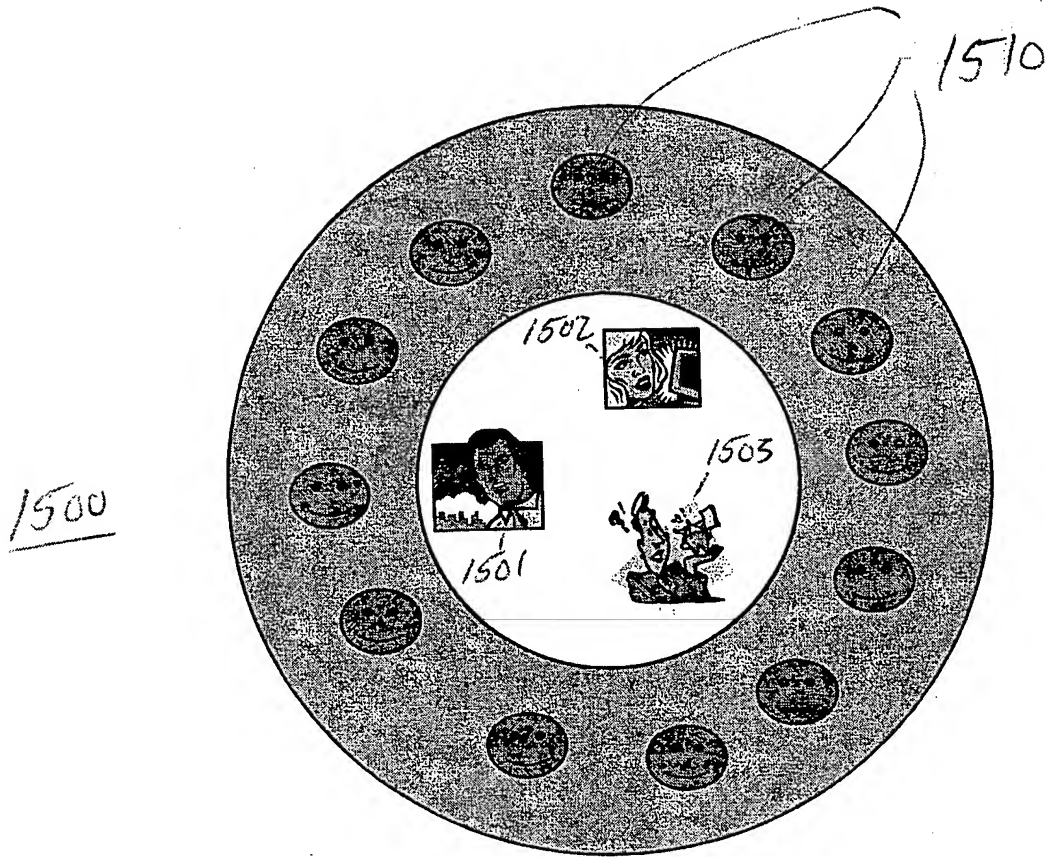


Figure 15A

Figure 15B

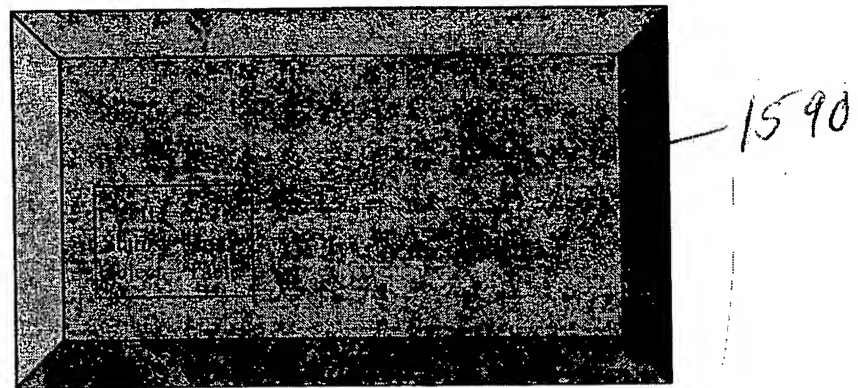
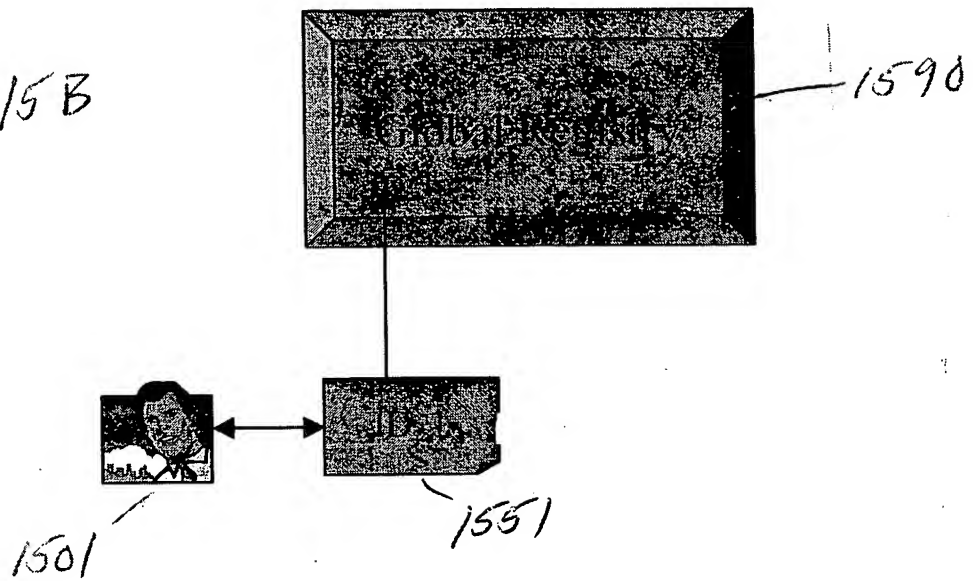


Figure 15C

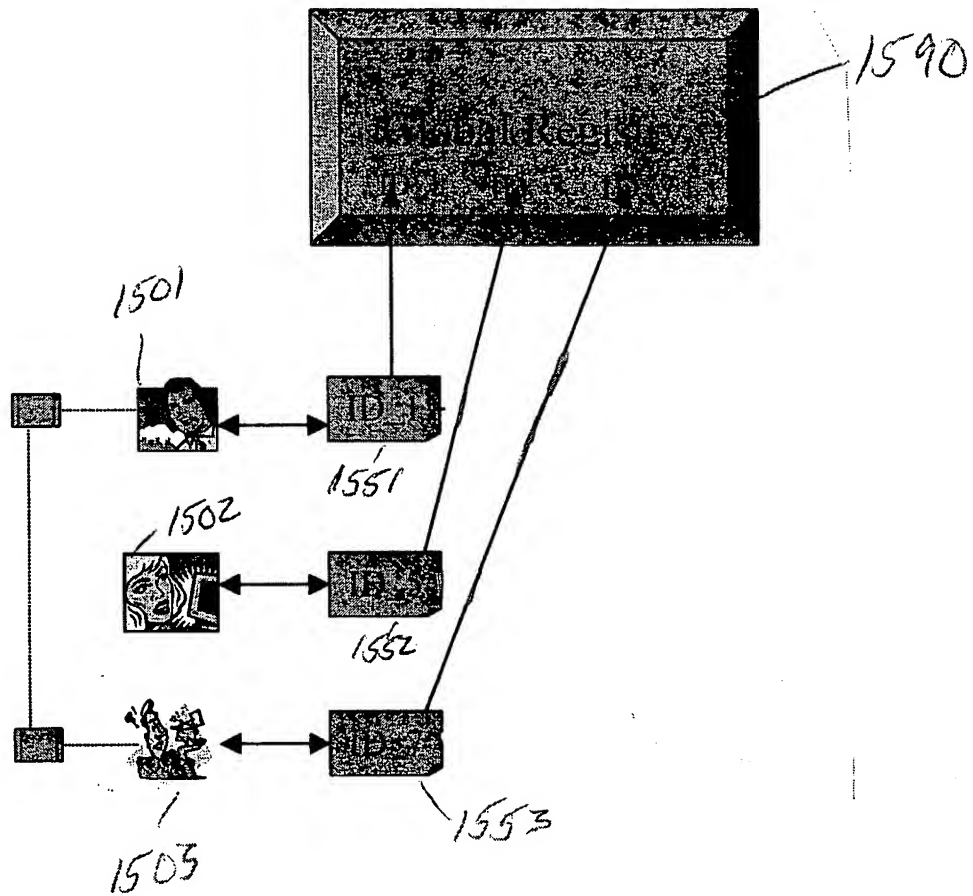


Figure 15D

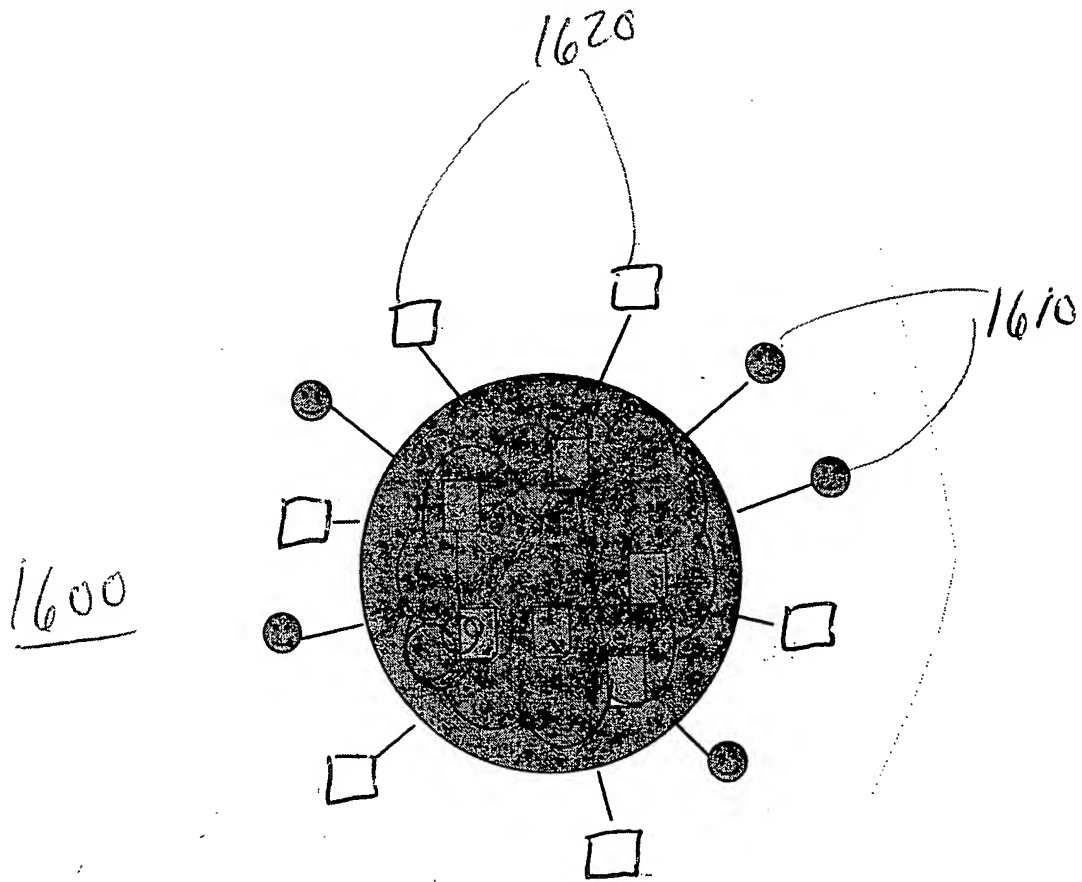


Figure 16.

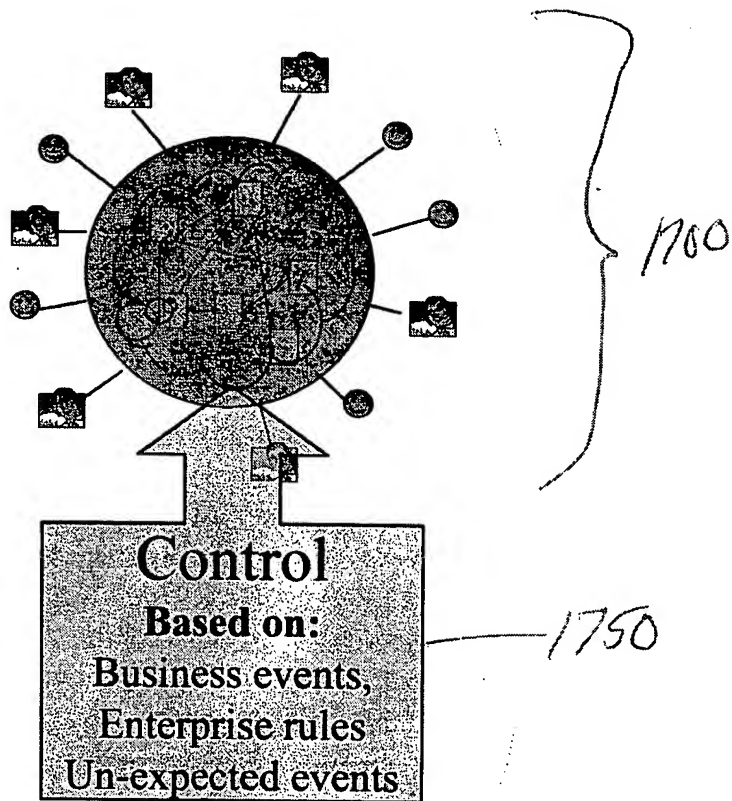


Figure 17

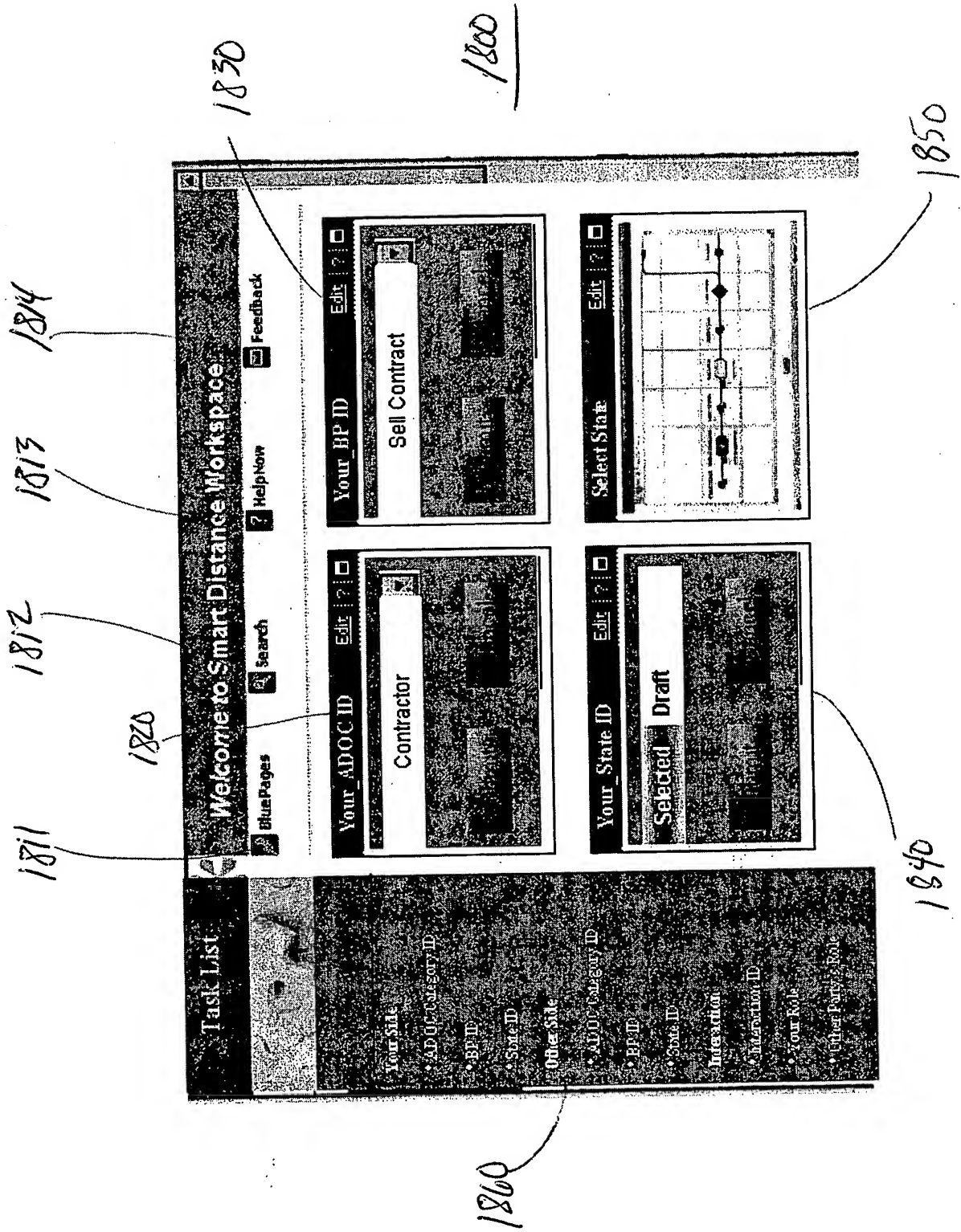


Figure 18

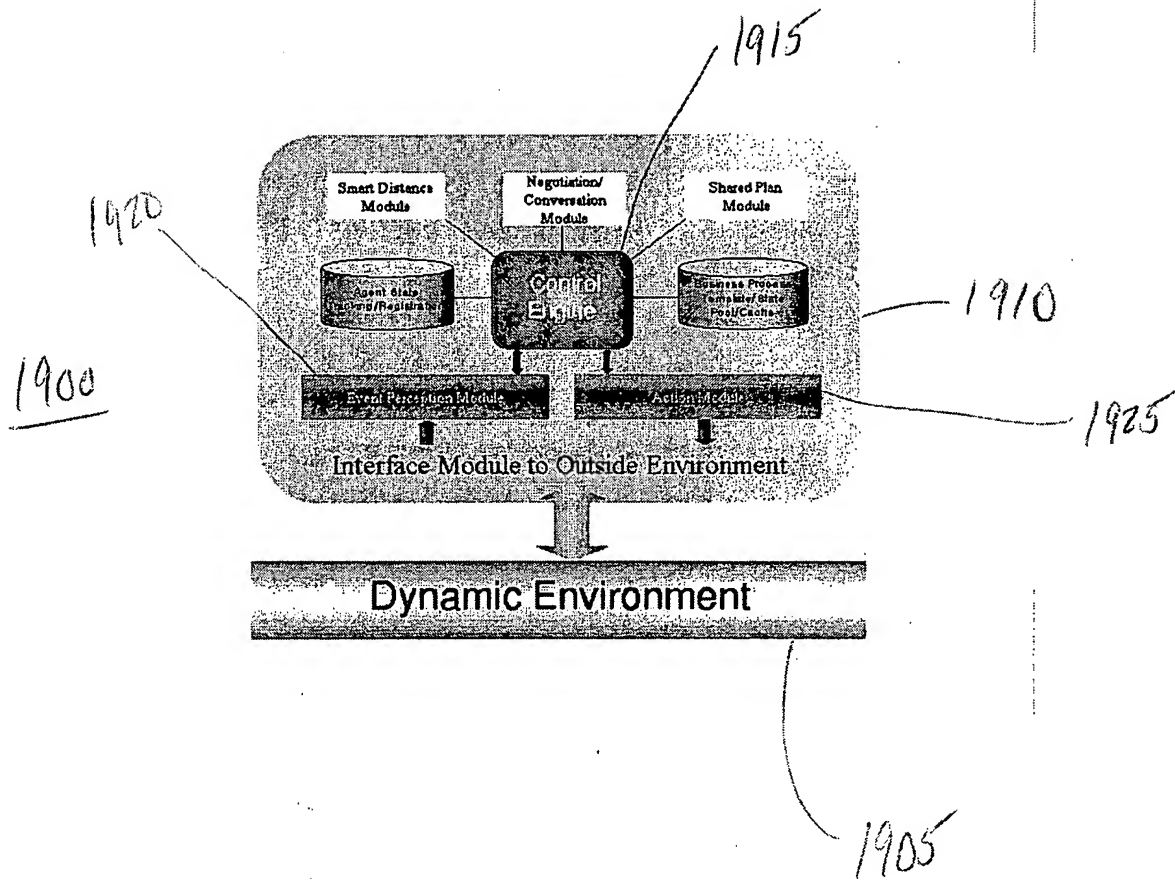


Figure 19

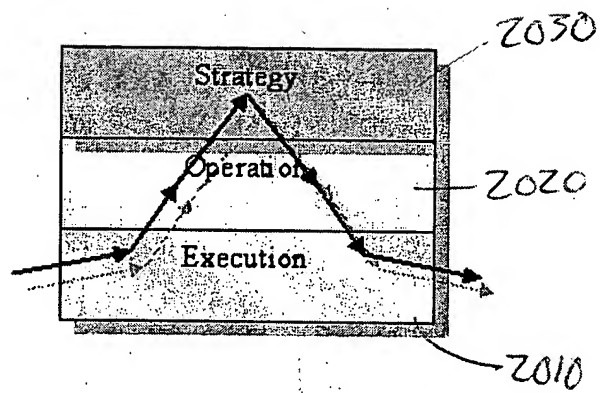


Figure 20

2100

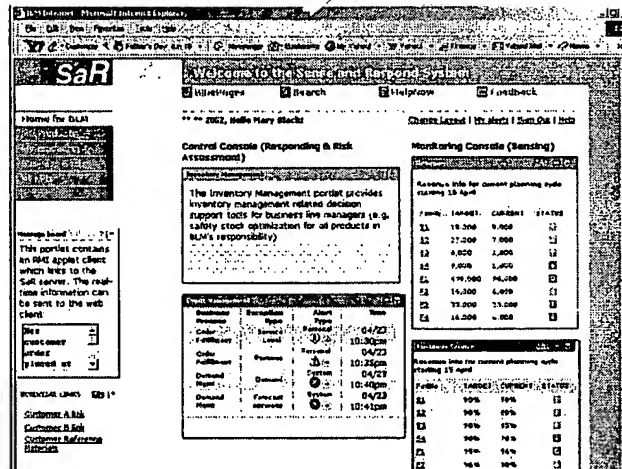
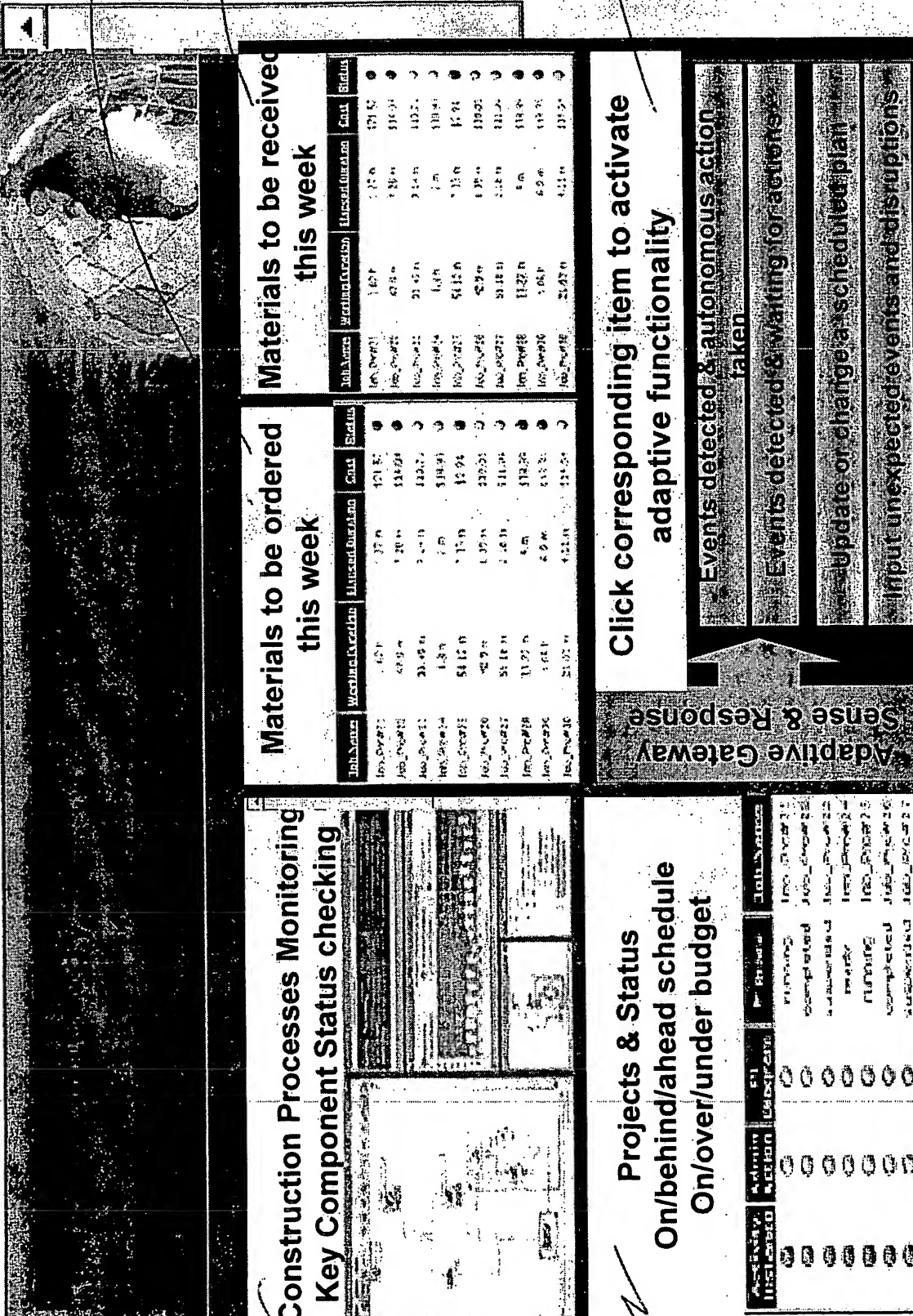


Figure 21.

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2220

Figure 22.

Events detected & autonomous action taken

Detected Event Lists
Click an item to show actions

Unit Name	Warning Duration	Elapsed Duration	Cost	Status
100_P00001	1:00 m	1:17 m	171.40	0
100_P00002	1:00 m	1:10 m	110.00	0
100_P00003	1:00 m	1:10 m	110.00	0
100_P00004	1:00 m	1:10 m	110.00	0
100_P00005	1:00 m	1:10 m	110.00	0
100_P00006	1:00 m	1:10 m	110.00	0
100_P00007	1:00 m	1:10 m	110.00	0
100_P00008	1:00 m	1:10 m	110.00	0
100_P00009	1:00 m	1:10 m	110.00	0
100_P00010	1:00 m	1:10 m	110.00	0

Autonomous Actions
Taken

Unit Name	Warning Duration	Elapsed Duration	Cost	Status
100_P00001	1:00 m	1:17 m	171.40	0
100_P00002	1:00 m	1:10 m	110.00	0
100_P00003	1:00 m	1:10 m	110.00	0
100_P00004	1:00 m	1:10 m	110.00	0
100_P00005	1:00 m	1:10 m	110.00	0
100_P00006	1:00 m	1:10 m	110.00	0
100_P00007	1:00 m	1:10 m	110.00	0
100_P00008	1:00 m	1:10 m	110.00	0
100_P00009	1:00 m	1:10 m	110.00	0
100_P00010	1:00 m	1:10 m	110.00	0

Possible Action Sets
Considered by

Unit Name	Warning Duration	Elapsed Duration	Cost	Status
100_P00001	1:00 m	1:17 m	171.40	0
100_P00002	1:00 m	1:10 m	110.00	0
100_P00003	1:00 m	1:10 m	110.00	0
100_P00004	1:00 m	1:10 m	110.00	0
100_P00005	1:00 m	1:10 m	110.00	0
100_P00006	1:00 m	1:10 m	110.00	0
100_P00007	1:00 m	1:10 m	110.00	0
100_P00008	1:00 m	1:10 m	110.00	0
100_P00009	1:00 m	1:10 m	110.00	0
100_P00010	1:00 m	1:10 m	110.00	0

Performance

Unit Name	Warning Duration	Elapsed Duration	Cost	Status
100_P00001	1:00 m	1:17 m	171.40	0
100_P00002	1:00 m	1:10 m	110.00	0
100_P00003	1:00 m	1:10 m	110.00	0
100_P00004	1:00 m	1:10 m	110.00	0
100_P00005	1:00 m	1:10 m	110.00	0
100_P00006	1:00 m	1:10 m	110.00	0
100_P00007	1:00 m	1:10 m	110.00	0
100_P00008	1:00 m	1:10 m	110.00	0
100_P00009	1:00 m	1:10 m	110.00	0
100_P00010	1:00 m	1:10 m	110.00	0

Do you want to allow this autonomous
Response in the future

Yes	No
-----	----

Figure 23

2300

2310

2340

2350

2320

2335

2350

Detected Event Lists

Click an item to show actions

Click an item to show actions

Working Period	Flares/Flare-hr	Flare Count	Sum
1971-1972	1.35	124.42	10
1972-1973	1.30	111.04	10
1973-1974	1.57	133.72	10
1974-1975	1.77	150.90	10
1975-1976	1.12	91.04	10
1976-1977	1.35	119.32	10
1977-1978	1.16	111.04	10
1978-1979	1.25	118.88	10
1979-1980	1.50	118.88	10
1980-1981	1.11	91.04	10

Suggested Actions Based on Optimizer

Job Name	Working Length	Elapsed Duration	Cost	Revenue
Job_000001	1.00 m	1.37 m	\$79.42	0
Job_000002	2.00 m	1.40 m	\$14.01	0
Job_000003	2.45 m	1.24 m	\$13.27	0
Job_000004	1.94 m	2.05 m	\$18.20	0
Job_000005	5.17 m	1.11 m	\$1.04	0
Job_000006	4.70 m	1.32 m	\$13.91	0
Job_000007	5.11 m	2.10 m	\$11.91	0
Job_000008	1.32 m	1.05 m	\$18.24	0
Job_000009	1.54 m	2.05 m	\$18.75	0
Job_000010	3.70 m	2.05 m	0	0

Possible Alternative Action Sets Based on Adaptive Engine

Job Number	Weighted Capacity	Elapsed Time (hr)	Cost	Rating
1000-Digging 1	1.67 hr	1.17 hr	121.50	●
1000-Digging 2	2.00 hr	1.26 hr	136.00	●
1000-Digging 3	2.00 hr	1.26 hr	136.00	●
1000-Digging 4	2.00 hr	1.26 hr	136.00	●
1000-Digging 5	1.67 hr	1.17 hr	121.50	●
1000-Digging 6	1.67 hr	1.17 hr	121.50	●
1000-Digging 7	1.67 hr	1.17 hr	121.50	●
1000-Digging 8	1.67 hr	1.17 hr	121.50	●
1000-Digging 9	1.67 hr	1.17 hr	121.50	●
1000-Digging 10	1.67 hr	1.17 hr	121.50	●
1000-Digging 11	1.67 hr	1.17 hr	121.50	●
1000-Digging 12	1.67 hr	1.17 hr	121.50	●
1000-Digging 13	1.67 hr	1.17 hr	121.50	●
1000-Digging 14	1.67 hr	1.17 hr	121.50	●
1000-Digging 15	1.67 hr	1.17 hr	121.50	●

performance

Tot Score

Click to input to
inference engine

Do you want to make this an autonomous Response in the future

Yes

©
Z

Figure 24

Figure 25

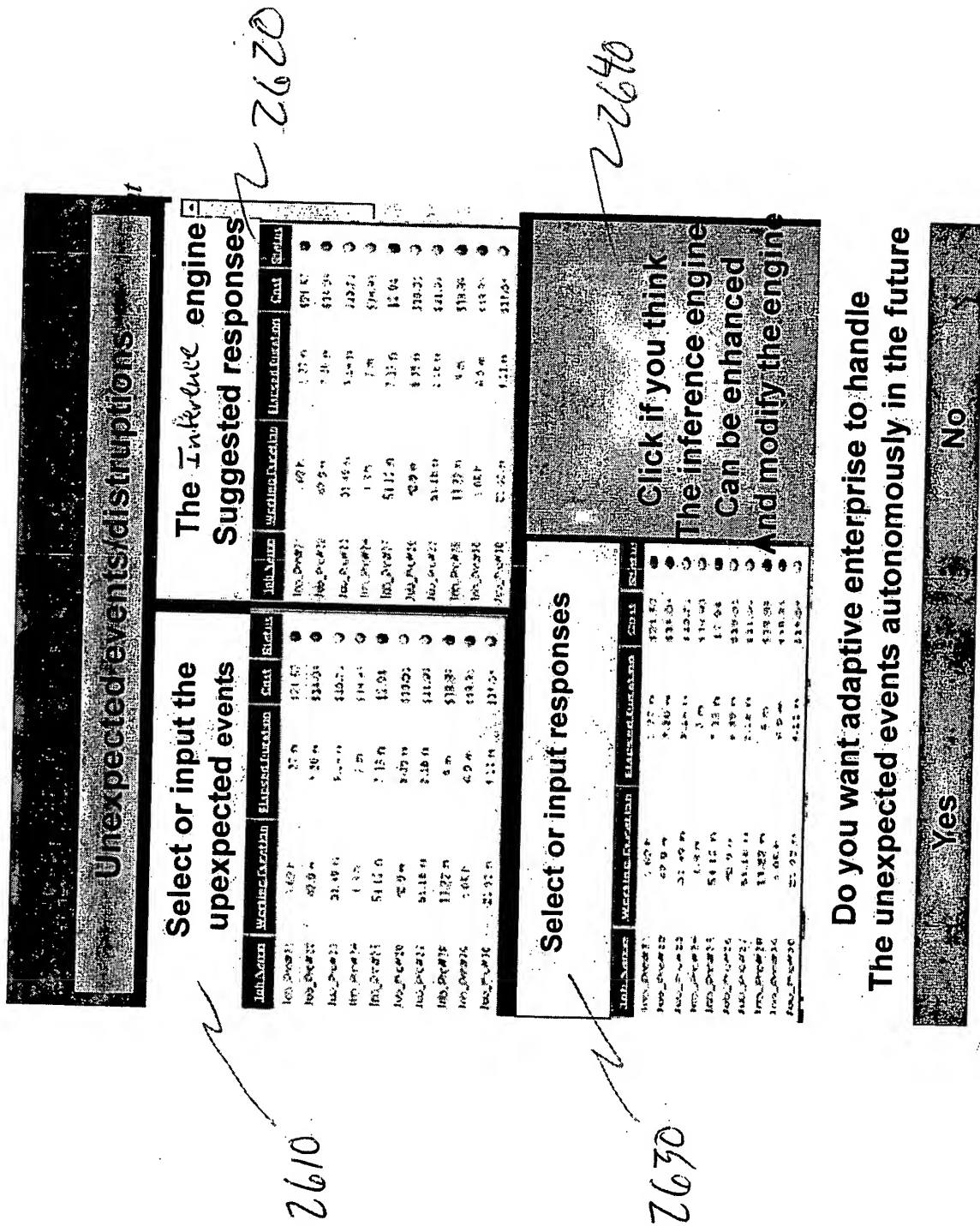


Figure 26

2600

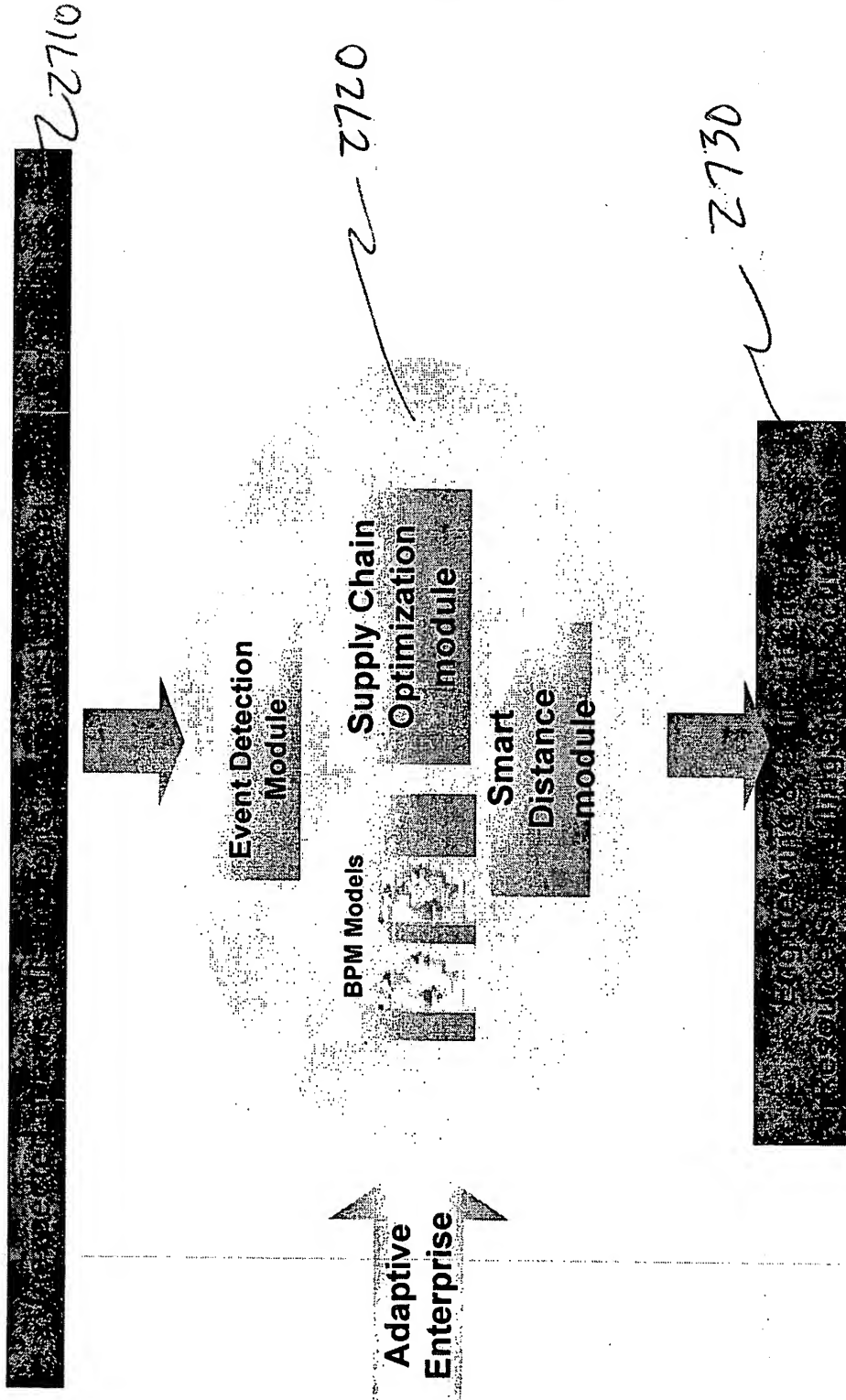


Figure 27

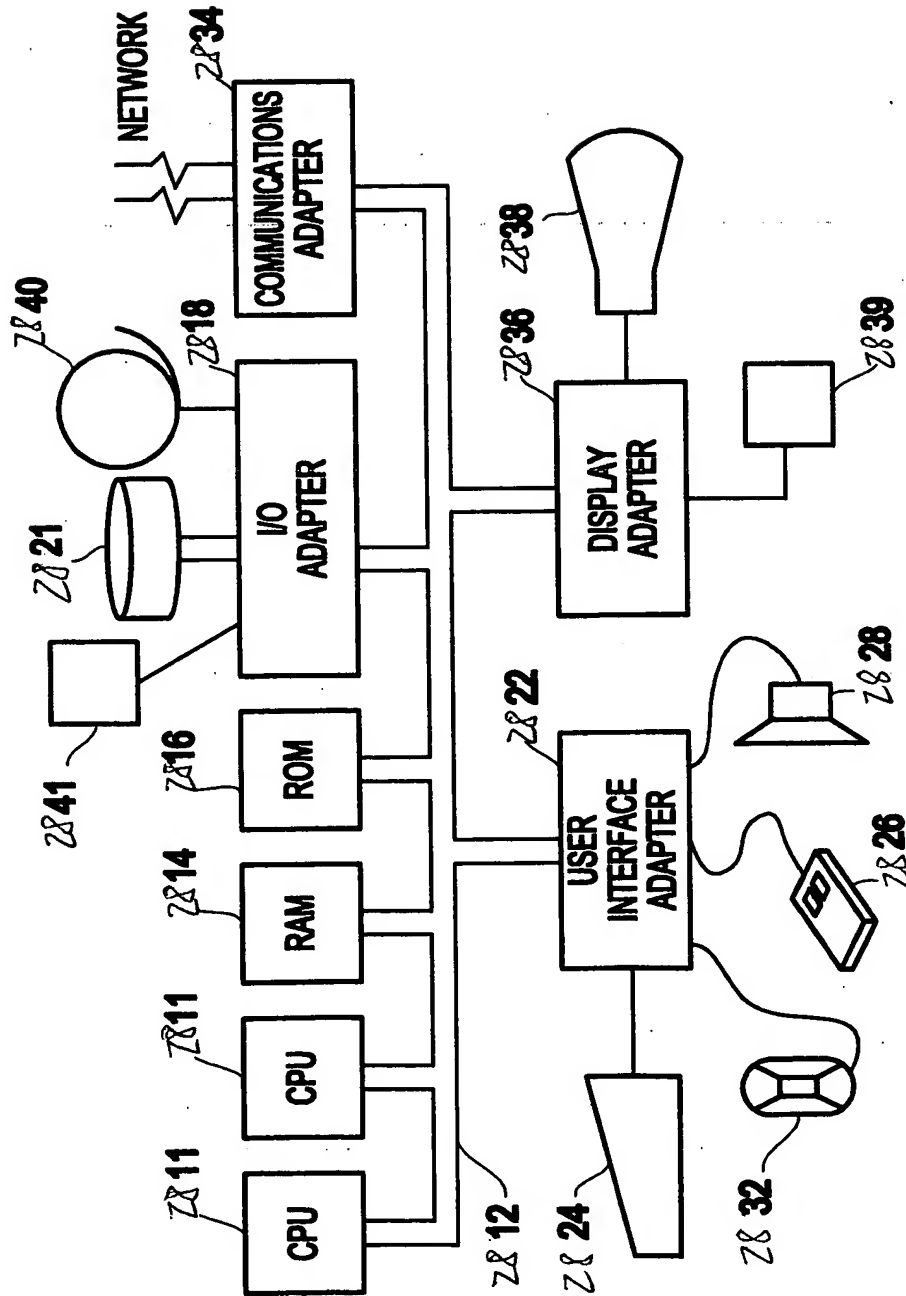


FIG. 28

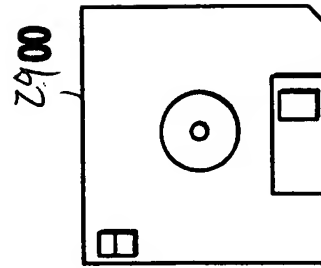


FIG. 29